REMARKS

Applicants have now thoroughly analyzed the language of claim 1 as originally filed and subsequently amended, and realized that the language was less than clear. As a result, claim 1 was amended again and is now believed to be clear to those of ordinary skill in the art. For the convenience of the Examiner and the scrivener, Applicants have provided below claim 1 in final form:

1. A method of imaging, measuring and displaying a 3-dimensional dose distribution of an energy field in a translucent 3-dimensional object comprising:
   (a) forming a 3-dimensional object from a dispersion of a crystalline, radiochromic polyacetylene monomer having a conjugated structure uniformly distributed in a rigid or high density semi-solid matrix,
   (b) applying an energy field to said 3-dimensional object such that the radiochromic polyacetylene monomer undergoes polymerization upon receipt of said energy thereby the optical properties of the object change in proportion to the dose of absorbed energy;
   (c) heating said 3-dimensional object to a temperature sufficient to solubilize the crystalline radiochromic polyacetylene monomer in said rigid or high density semi-solid matrix, thereby rendering said object transparent to light;
   (d) optically scanning the object at various positions and angles to provide a series of 2-dimensional representations of the object;
   (e) detecting the light transmission through the object indicative of optical changes in the object;
   (f) calibrating the optical change in the object corresponding to the dose of the absorbed energy;
   (g) mapping the dose of the energy absorbed in the object, and
   (h) reconstructing said 2-dimensional representation to provide a 3-dimensional image of the object in high optical resolution.

In response to the Examiner's question regarding the recitation in Claim 1(f), "calibrating the optical change in the object transmitted through the object by x-rays to the dose of the energy corresponding to each position scan", Applicants now state that the calibration of the energy is what is absorbed in the object.

Claims 8 and 9 remain as originally filed.

Withdrawal of the rejection of claim 1 as now amended, and claims 8 and 9 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claim Rejections

Claims 1, 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gore et al. (U.S. Patent No. 6,218,673) in view of Cremeans et al. (U.S. Patent No. 3,501,297).

Claims 1, 8 and 9 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is alleged that, except for the present image display receiver, the Gore et al. reference meets the requirements of claims 1 of the present invention.

In Cremeans et al. a photosensitive system for receiving an image consists of photosensitive crystals of a polyacetylene compound held in a fixed position on a support.

It is alleged that the combination of the teaching of the two references, under 35 U.S.C. §103, second paragraph, would produce the present claims to a person skilled in the art. Applicant respectfully disagrees with this holding for the following reasons, some of which were also pointed out by the Examiner.

Gore et al. do not teach the present image display receiver comprising a radiation activated metal salt of a crystalline thermochromic polyacetylene having a conjugated structure uniformally distributed in a rigid or high density semi-solid matrix. The patent teaches mirrors employed to deflect light beams to provide scanning form multiple directions.

Such a system is not used in the present invention for good reasons. In the present invention a composition is used to detect and interpret the images and measure the dose distribution of an energy field.

Cremeans teaches a photosensitive system for receiving an image which consists of photosensitive crystals of a polyacetylene compound which is also used in the present invention.

Theoretically, it might be possible to join the Cremeans teaching with that of Gore et al. However, a person skilled in the art would not combine the two for the following reasons:

1) such combination is not suggested by Gore et al. (the patent issued 30 years after the issuance of the Cremeans patent);
2) such combination would not be feasible as far as the evaluation of the issues by the present inventors. The combination, without guidance from the prior art which is lacking, would create redundancy and impracticability. To point out one of the difficulties, the heating step to render the object transparent does note exist in the references. Other difficulties include the detection of radiant energy. The Cremeans reference also requires the comparison of exposed and unexposed crystals.

However, if theoretically such combination would be possible, the question remains which measurement result one would use...that of Gore et al, or Cremeans et al.? Further yet,

which parts of the teaching of the references should be discarded or used based on the combination of the references? Such picking-and-choosing without any guidance cannot be the basis of the rejection under 35 U.S.C. §103.

Withdrawal of the rejection is respectfully solicited.

Respectfully submitted,

Date: June 19, 2006

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